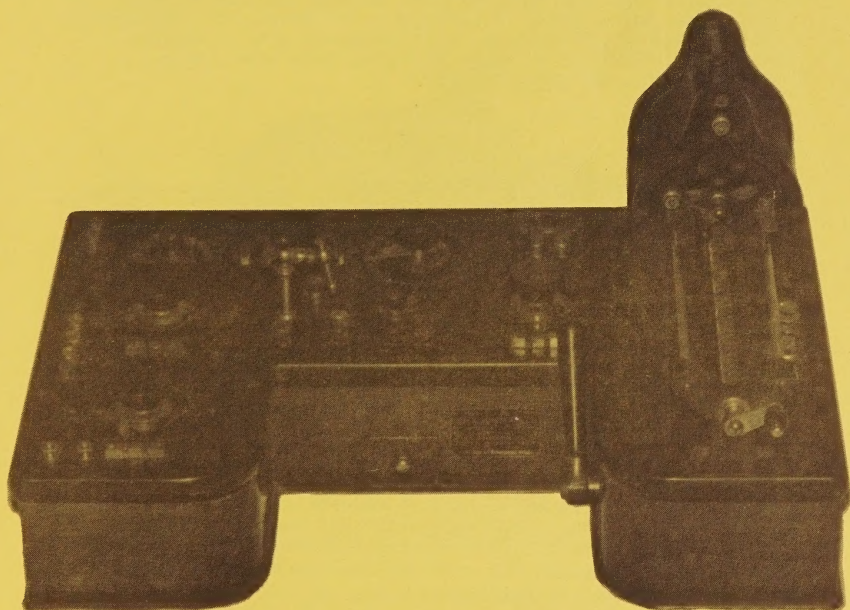

OFFICIAL JOURNAL

VOL. III

MARCH

NO. I

CALIFORNIA
HISTORICAL
CERS RADIO
SOCIETY



HOGAN'S HEROES CRYSTAL SET

CALIFORNIA HISTORICAL RADIO SOCIETY INC.

P.O. BOX 1147
MOUNTAIN VIEW, CAL.
94040

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JOURNAL EDITOR: Allan Bryant.

For membership correspondence address the Treasurer, James Cirner, 13366 Pastel Lane, Mt. View, Ca. 94040. Articles and non-commercial ads for the journal should be submitted to the Editor, Allan Bryant, 38262 Ballard Dr., Fremont, Ca. 94536. Historical data for copying or donation should be sent to the Historian, Larry LaDuc, Jr., 484 Arleta Ave., San Jose, Ca., 95128.

THE SOCIETY

The California Historical Radio Society is a non-profit corporation chartered in the state of California, and was formed to promote the restoration and preservation of early radio and radio broadcasting. Our goal is to provide the opportunity to exchange ideas and information on the history of radio (in California especially). We hope to be of service to those interested in such areas as collecting of equipment, literature, and programs, etc., and restoration of early gear. Regular meetings and swap meets are scheduled at least four times a year in the San Jose area. We now have over 100 members from throughout the state (and a few from out of state). As we grow so do our benefits to our members. Tell your friends about us!

The Official Journal of the California Historical Radio Society is published quarterly and is furnished free to members. Our first issue was published in September 1975 and copies of early issues are still available; the first issue is \$2.00, others are \$1.00 each. Articles for the Journal are solicited from all members. Any items of interest, such as restoration hints, information on early radio broadcasts and personalities, anecdotes about the pioneers, etc., will be gratefully accepted. anyone interested in editing a section of the magazine on a full time basis should contact the editor. This can relieve our editor of a great deal of work and insure maximum attention to your area of particular interest.



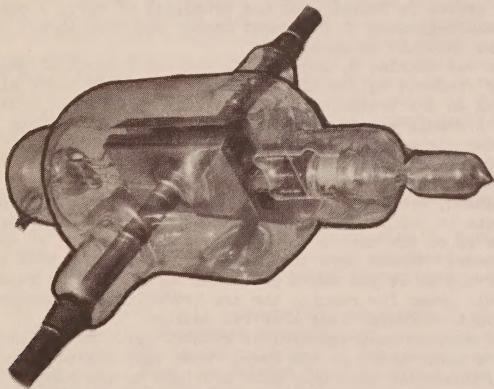
THE TUBE COLUMN

by RUSS WINENOW W6AVE

This tube was made by Heintz and Kaufman LTD-South San Francisco in the late 1920's. It carries the name "Gammatron" etched on the glass and the Heintz and Kaufman logo. It also is marked serial no. 526. The interesting feature of this tube is the lack of a grid. Instead two plates were arranged, one on each side of the filament but with one much closer to the filament than the other.

In an old Engineering Data Sheet published by H&K it says "Gammatron, is a name that has identified the electronic products of Heintz and Kaufman LTD. for over 6 years. The first Gammatrons were a special gridless, three element tube designed for trans-oceanic ship and phone service. These tubes are still being used successfully, handling a large portion of the trans-pacific commercial traffic". It further states that H&K had been making quality radio equipment since 1919 and had a reference date of 1935. At this time (1935) the "Gammatrons" did have a grid structure, so this would seem to place the origin of the early tubes somewhere in the late 1920's or early 1930's.

As soon as I can I plan to do more research on H&K tubes and would appreciate help from anyone having knowledge of the early days.



A N N O U N C I N G

The Fourth Western Regional Meeting
of the

The Antique Wireless Association
co-sponsored by

The California Historical Radio Society

Date: Saturday - April 22, 1978

Place: Foothill College Electronics Museum
12345 South El Monte Road
Los Altos Hills, California

Time: 8 A.M. to 4:15 P.M.

Historian's Notes

WHO INVENTED BROADCASTING STATIONS?

Contributed by KEN MILLER

Music was first broadcast by Reginald Fessenden in 1906, but commercial broadcasting did not start for another few years.

A hint of commercial radio came in 1907 when Lee De Forest began to transmit music from time to time in New York City. The broadcasts were brief and were made from the Cahill Telharmonium Company at Broadway and Forty-fifth Street to the Hotel Normandy, a fairly short distance away. He used phonograph records as a means to test his transmitter and receiver.

It should be pointed out that De Forest at this time was using an arc transmitter. His three-element audion was not used for transmitting until after 1913, after its ability to oscillate was discovered and after it was developed so it would produce more power.

In 1910, Lee De Forest's Radio Telephone Company broadcast direct from the Metropolitan Opera House. The date was January 13, and the famous tenor Enrico Caruso was one of the featured singers. The broadcast was heard by a few ship operators and amateur radio hobbyists. De Forest used a 500-watt transmitter, with an antenna on the roof. Two microphones were used— one in the footlights and the other in the stage wings, where the operatic lead sang his aria.

These were the years when experimental broadcasting sprouted in several places. Even before De Forest made his broadcast of opera, a man in San Jose, California, was beginning to broadcast music— and even inject commercial advertisements into his programs.

His name was Charles D. Herrold. He started a school of engineering in 1909, and his students called him Doc Herrold. Herrold began his broadcasting in 1909, using an arc transmitter and a water-cooled microphone.

Herrold's studio was in the old Garden City Bank Building in San Jose. Every Wednesday night he would make his regular broadcast, which included phonograph records and news bulletins, and once in a while a singer would try out the microphone.

Terry Hansen, who now lives in San Jose, California, was one of Doc Herrold's students in 1912. He recalls that Herrold used a microphone that was actually made up of six microphones connected in parallel so that they could handle the power. Hansen says the microphone got so hot that if you were to touch your lip to it you would get a bad burn. He also remembers that Herrold got his power for running the arc transmitter by connecting it to a 500- or 600-volt streetcar line that ran nearby!

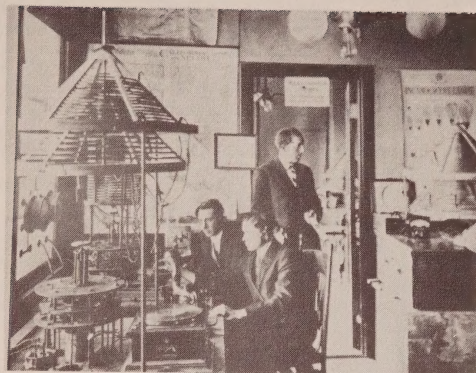
Herrold's station used commercials without pay. He and his wife borrowed records from a music store in San Jose. When they played these records on the air, they announced that they were provided by the music store.

When he opened his station, Herrold did not have call letters, since these were not yet required. He would announce, "This is San Jose calling." The station's first commercial broadcasting call letters, KJW, were issued in 1921. The station was sold a number of times through the years and finally became part of the Columbia Broadcasting System network. Today the station is known as KCBS, and it broadcasts from San Francisco.

There were a number of other amateurs who tried broadcasting about this time. One was Harold J. Power, a student at Tufts College, near Boston. He even interested the great financier J. P. Morgan in the idea of broadcasting and visualized the day when everyone would have a radio receiver. With money from Morgan, Power organized the American Radio and Research Corporation in 1915. The firm built a radio station on land provided by Tufts College and began broadcasting news and phonograph records. This early radio station was put out of business when World War I came along, and it later became part of the Crosley Radio Corporation.

There were others who made sporadic broadcasts in those days. But one who visualized what radio broadcasting might really become was David Sarnoff.

Sarnoff was a radio operator and manager of the Marconi communications station at Sea Gate, New York. The John Wanamaker stores in 1910 had installed Marconi wireless at their New York and Philadelphia stores, and Sarnoff was in charge of the New York station.



On April 14, 1912, Sarnoff was on duty and copied distress messages relayed by the ship Carpathia about the Titanic sinking after it struck an iceberg. He stayed at his operating position for seventy-two hours, copying messages and relaying to anxious relatives the names of those who had survived.

This incident made Sarnoff's name well known to the public. His company already realized that he was a competent operator and a man who knew wireless as well as anyone. He was promoted rapidly. In 1916, in a note to his superior, he predicted that radio broadcasting would become a commercial success.

In that note, Sarnoff saw the day when every house would have a "radio music box" that could easily be tuned to several stations by turning a switch or pressing a button. This box would be like a small piece of furniture, in the parlor or living room. From it, families in all areas would be able to hear news, lectures, and musical entertainment.

Sarnoff was right. The radio music box that would entertain people in their homes was almost ready to be born. Two radio stations in particular were to help bring the music box to the people. One was in Detroit, Michigan, the other, in Pittsburgh, Pennsylvania.

The Detroit story of broadcasting began when William E. Scripps, publisher of the Detroit News, became interested in radio and assembled a receiver for his son. Later, he bought a De Forest radiophone transmitter and had it installed in the office of the News.

Day after day the station, call letters 8MK, was tested. Finally it was put on the air. It broadcast phonograph records, and sometimes one of the newspaper staff would sing into the microphone. A few people heard the station and Scripps was encouraged. Then the Detroit News announced that it would broadcast the Presidential election vote returns. On November 2, 1920, 8MK announced the results of the Warren Harding-James Cox election.

8MK later became WWJ. As 8MK, the station claims to have begun broadcasting on August 20, 1920- the day it started formal test transmissions.

Meanwhile, there was action in Pittsburgh. Dr. Frank Conrad, an engineer with Westinghouse Electric, was bitten by the radio bug in 1912 when he built a small receiver to hear signals from the Naval Observatory station at Arlington, Virginia. By 1916 he had installed a transmitting station, call letters 8XK, in the garage at his home in Wilkinsburg. But World War I closed him down, along with other amateurs, on April 17, 1917.

8XK got on the air again on May 1, 1920. Conrad's station became well known to the amateurs listening in the area, and many of them visited it. He began to broadcast occasional phonograph records. Like Doc Herrold of San Jose, Conrad borrowed these records from a music store and mentioned the name of the store on the air. The store- Hamilton Music Store of Wilkinsburg- was soon selling more of the records Conrad played than any others.

When Conrad became tired of all the requests made of him to broadcast particular phonograph records, his sons, Francis and Crawford, took over the chores at the microphone.

Then somebody suddenly realized the commercial value of radio. It was the Joseph Horne Company, a Pittsburgh department store. They ran an advertisement in the Pittsburgh Sun about the Conrad Broadcasts and Victrola music played over a wireless telephone. Then it said: "Amateur Wireless Sets, made by the maker of the Set which is operating in our store, are on sale here \$10.00 up."

The advertisement caught the eye of Harry P. Davis, who was then the vice-president of the Westinghouse Company. Davis had been watching Conrad's experiments with interest. This advertisement convinced him that here was a chance to create a market of unlimited possibility. Westinghouse would build a radio station, sell radio sets, and get good publicity.

On October 16, 1920, Westinghouse applied to the Department of Commerce for call letters. On October 27, the call letters were issued to the Pittsburgh station, and on November 2, KDKA broadcast the Harding-Cox election returns. It was estimated that 500 to 1,000 people heard this broadcast through small radio sets, probably most of them crystal sets with headphones. Radio broadcasting was on its way!

Who invented broadcasting? Fessenden, with his Christmas music transmission in 1906? De Forest in 1908 when he broadcast the Metropolitan Opera? Doc Herrold in San Jose in 1909?

Who was first- WWJ in Detroit or KDKA in Pittsburgh?

Many historians would probably agree that KDKA was the first licensed station to make regular, commercial broadcasts, even if some of the others may have transmitted music and news before then. But each of these early experimenters can claim to be first in his own particular way.

Most important- radio was no longer just a pastime for the experimenter, the amateur who worked in a dusty attic or a cold garage. It had come into the living room, and it belonged to all the people.

The preceeding article is actually a chapter from the excellent book by W.R.Hilbrink, Who Really Invented Radio? G.P.Futnam's Sons, New York, 1972. The material is reprinted by permission, and copyright is maintained by the author.

I recently picked up a copy of The Book of Firsts, by Patrick Robertson, Clarkson N. Potter Publisher, New York, 1974. This book, which lists 6000 discoveries, inventions, and milestones, credits Professor Fessenden with the first radio broadcast in 1906 and Professor Herrold with the first daily scheduled service, noting that KCBS "is generially acknowledged to be the oldest broadcasting station in the world". (See the CHRS Official Journal for Sept. 1975.

This book also tends to support KDKA's claim to be the first station to broadcast in the modern sense. To be exact it was the first licensed station to broadcast programs of a commercial nature on a regular strictly non-experimental basis.



COLLECTOR SPOTLIGHT

THIS ISSUE : JOE HORVATH

THE RADIO LIFE STORY OF JOE HORVATH.

In 1922 at Forestville, California I heard my first radio sound when I attended a public demonstration of radio, or wireless, as they called it then. I was so awed by the radio signals coming through the air that I just had to get into it, too. So that year I built my first Crystal set, which was immediately followed by a one tube regenerative set. By 1923 I built my first Harkness reflex set, which never did work like they said it should!! By repairing radios for our neighbors I was able to afford to become a radio Ham in 1932. Amateur radio occupied my radio interests until 1965 when I was thinking very seriously about my upcoming retirement. My brother-in-law in Windsor had a lot of old radios in a barn which he gave me and this started me off in the collecting business. A few years later I bought up Marvin Prices collection in Sacramento and that really set me up in the big time collecting.

I don't go in for quantity in my collection, I'm always striving to improve it. I have a cross cut of sets, from old Spark to a few Classics in the AC sets. But probably my most interesting part in the collection is my OLD TIME shelf of boxed parts and the glass show case of very rare MSC. parts.

Building old Superhet receivers is my real love, but I do love to restore an oldie and getting it to work again.

I am holding in my hands an De Forest RJ-9 and De Forest Crystal set. The A-K breadboards are directly behind me. The two white porcelain Rheostats showing in the background are, on the bottom a De Forest RJ-4 and on top a De Forest RJ-5

Visitors are always welcome to see the collection,

Good Hunting!

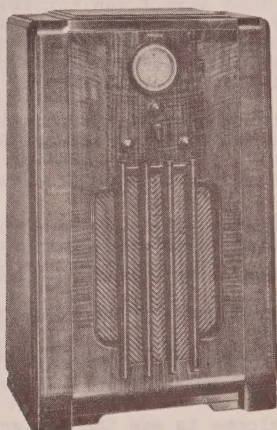


RESTORATION HINTS

PROCEDURE FOR RESTORING ANY PHILCO RADIO USING BAKELITE BLOCK CAPACITORS

By Jim Girner

For the purpose of this article I used a Philco model 37-670. This model has 7 bakelite block capacitors, plus conventional tubular capacitors. From experience I have found in order to make any old radio reliable, it is necessary to totally recap the set with new style capacitors. Don't use new old stock paper capacitors with the waxed-in ends. They're unreliable. I have observed that many collectors when rebuilding a Philco cut the terminals loose on the bakelite block capacitors. Of course, this leaves a lot of new tubular capacitors and wires floating free. This makes for a very messy restoration, and the underside of the chassis has a butchered look.

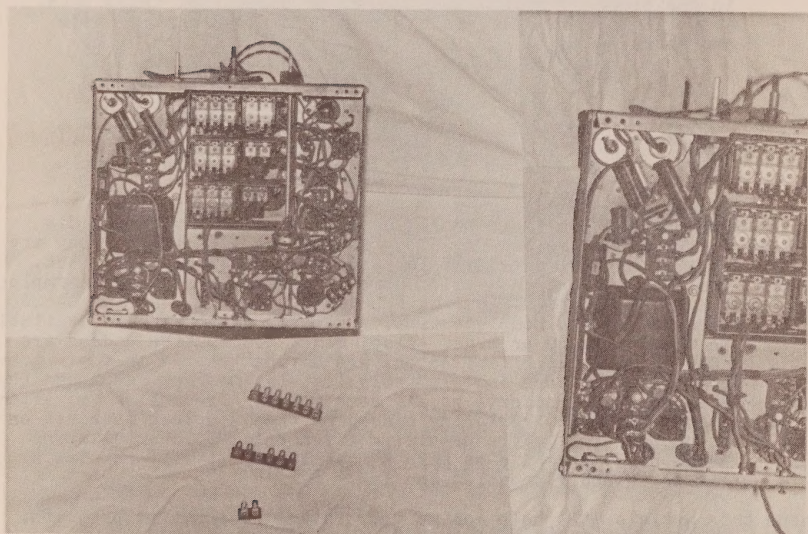


Starting Complete Restoration

- Step 1: Clean chassis thoroughly and clean dirt out of tuning capacitors. Wash plates with ethyl alcohol. Alcohol detunes tuning capacitor. If you are in a hurry to operate the radio, use a heatgun to evaporate alcohol out of the tuning capacitors. Check to make sure plates are not touching.
- Step 2: Check resistance of pots and clean with a good quality contact cleaner. The best I have found is called No Noise Volume Control Contact Restorer. It is manufactured by Electronic Chemical Corp., 813 Communipaw Ave., Jersey City, N. J., 07304. Also, clean band switches and toggle switches, etc.
- Step 3: Make an ohm meter check of transformers. IF's, osc. coil, interstage, power, speaker output and power supply choke.
- Step 4: Ohm meter check every resistor. Usually you will find at least two resistors as much as 50% or more out of tolerance and once in awhile an open one. Resistors 20-30% out of tolerance generally don't make much difference except in osc. circuits.
- Step 5: Replace line cord if required. I suggest you install a fuse in the primary circuit of the power transformer.

Step 6: Now starts the fun. (Replacing electrolytic capacitors)
I don't remove can types that are visable on top of the chassis.
This leaves unsightly holes which look bad.

Var.1: (Capacitors that have one stud which is the positive terminal.) Disconnect the wires from positive stud. Take a conventional terminal strip (as shown in the pictures of this article.) If it has too many contacts cut the extra off. Leave one solder terminal chassis and screw down terminal. Split the chassis screw-down ring and slip it over the positive stud of the old electrolytic. Solder the terminal strip to the positive stud. This gives you a solid mount for all the loose wires and an easy way to mount a new tubular electrolytic in its place.



Var.2: (Multi-lead electrolytics)
Mount a terminal strip close to the old electrolytic and transfer all the wires. Sometime you can follow electrolytic wires to their origin and remove wires and solder a tubular capacitor at that point. In the case of multi-stud electrolytic capacitors, mount a terminal strip with the correct amount of terminals required on one of the studs like in Var. 1.

Var.3: (Tubular electrolytics)
They require no special procedures.

Step 7: (Bakelite block capacitors)
There are several ways to replace the inside of these bakelite block capacitors.
(Difficult way) Remove block from set and melt tar and capacitor out with a heatgun or melt out on a hotplate or inside an oven.

(Easy way) Remove screw holding bakelite block capacitor down on chassis. Turn block over, this exposes the tared in capacitor. The leads are usually long enough to allow you to turn capacitor over without breaking anything. Occasionally it will be necessary to unsolder a wire or so in order to turn over a block capacitor. By not removing capacitor block from the set this saves a lot of time. Hold block firmly and take a medium size screwdriver and dig out as much of the tar from the top and sides of the capacitor as you can and use a larger screwdriver to pry capacitor out of block. Pry from screw-down end of block. The other end and side are too thin and can be cracked while prying. I also have a small screwdriver which I modified by bending the tip to a 90 degree angle to aid prying out old capacitors. A little additional scraping will completely clean out block. It takes me three to four minutes per capacitor.

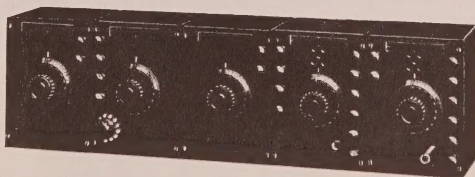
(Caution note) On several of the early chassis, 1928, 1929 and 1930 consoles there was some cathode bypass block capacitors that had cathode return wire wound flat resistors also potted in the block. Model 29 and 30 are an example of these sets. A little more care has to be taken to avoid damaging these resistors.



(Recommended capacitor to use in the blocks) Sprague Defilm Orange Drop dipped tubulars 400 v series fit in the blocks well. The 600 v series are too large. They are available in almost any value you would need for radio work. The typical Sprague catalog numbers for capacitors are example: .01 MFD 400 v, 4PS-S10, .05 MFD 400 v, 4PS350. Catalog C-620, page 20 has the complete list. Quantity discounts are available when ordering 50 or more. Also, mixed combination orders are OK. If a group of collectors are having trouble in their area getting capacitors and electrolytics, let me know and I can buy a large order and save us all some money. Theoretically, after going through my restoring procedure when you turn your set on it should work, maybe requiring alignment. Of course, being human once in awhile we make a mistake and it will require a little friendly trouble-shooting.

I hope this article will help you in your future restoration projects.
Jim Cirner, 13366 Pastel Ln., Mt. View, CA. 94040.

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The first is SERVICE—so are
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SERVICE RADIO EQUIPMENT

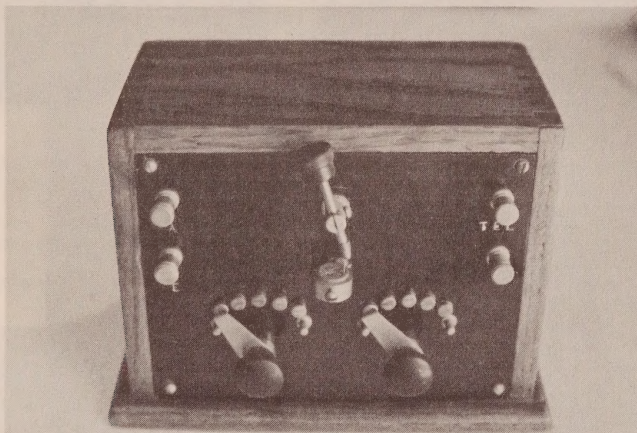
Box 340 Central Sta. Toledo, Ohio

Say Radio to the Advertiser, it will help you.

MYSTERY SET

This column is intended to be of service to the collector that owns a vintage radio or radio equipment that is not identifiable. For instance, the piece may lack manufacture or model number markings. In the case of equipment you just might want to know what it was used for.

If you have such a device, send B&W photo and a detailed description of the piece to the editor. If you happen to know something about the equipment in question, please correspond with the owner.



This issue's set is a crystal receiver. It is housed in a golden oak case employing tongue and groove, and dove tail construction. The size is 7" wide by 5½" high by 5" deep.

The bakelite panel is marked A for antenna, E for earth, and TEL for the phone connections. The markings are stamped into the panel -not etched. I also noticed that the screws used in the detector assembly were metric. The cat's whisker and rod pieces were reproduced as the originals were missing. The name plate that at one time was mounted on the top of the case is also missing.

If you have any information on this set please contact, Allan Bryant, 38262 Ballard Dr., Fremont, Cal., 94536 415-791-8967

The editor wishes to thank Elaine Cirner and Mary Bryant for contributing their typing skills to the journal. Also Dave Brodie for coordinating and soliciting articles.

The Official Journal needs articles. If you've ever thought of writing a technical, restoration, or historical article-nows the time to do it! Why not pick out a favorite set from your collection and write a spotlight article about it? This is your journal and articles are solicited from all members. The more articles the editorial staff has has on hand, the better the journal will be.

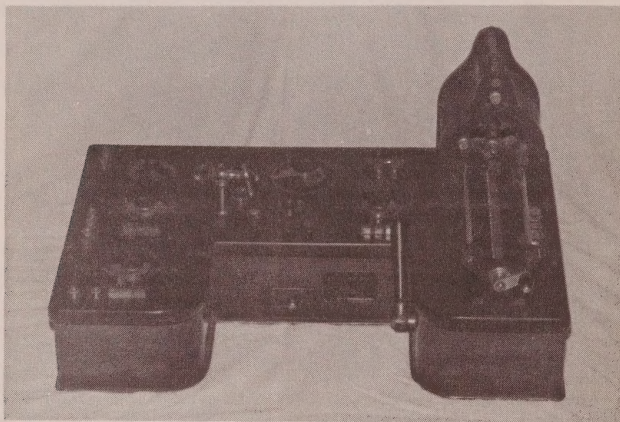
THE DEADLINE FOR ALL ARTICLES AND ADS THAT ARE TO BE INCLUDED IN THE JULY ISSUE IS: JULY 1, 1978.

FEATURED SET

The "Hogan's Heroes" Crystal Set

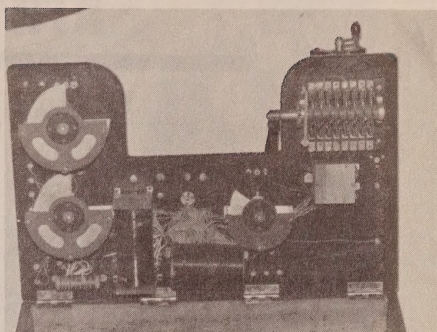
By Jim Cirner

If you ever looked at one of the old Hogan's Heroes reruns on TV, you may have noticed a radio in the cave scene. Usually the actor would put on a pair of earphones and pretend like he was transmitting a message to the allies. Universal Studios in 1974 sold some of the Hogan's Heroes props and a dealer purchased this crystal set with a lot of other items. It was sold to a telephone collector friend of mine and I bought it from him in 1977.



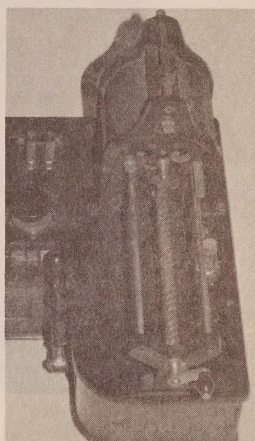
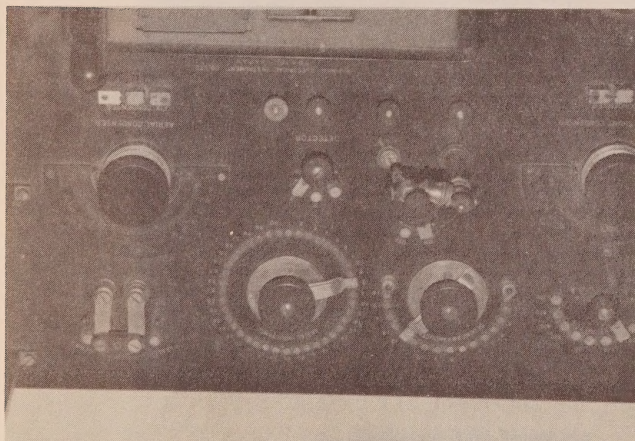
It is one of the largest crystal sets I have ever seen. The top panel is a 1" thick piece of bakelite and it is shaped like a horseshoe. According to the label it was made by the Electrical Instrument Co., Ltd., Tokyo, Japan. I am guessing that its age is somewhere between 1916-1922. As you can see from the pictures, it is very elaborate. There is a very well built loose coupler in the right hand corner and a crystal mount towards the middle. Also, provisions were made for using an external crystal mount with three detectors on it. There is a selector switch on the panel that is labeled Detector 1, 2 and 3. There is also a selector switch called cell voltage and terminals to supply an external cell voltage. I assume this might have been provided to give the option of using a carborundum detector. Also, there are terminals to provide volts, both fil. and B+ for a tube detector. In the pictures you will notice a large handle on the right front. This is to select either crystal or vacuum tube detector. There are several R.F. adjustments, secondary, serial, pri. tuning, etc. There is a three position switch labeled parallel, short and series. Also, there is an adjustable arrester which appears to be a spark gap.

This set has me really puzzled. The nameplate is printed in both English and Japanese. All the printing on the panel is in English. Some of the words are both in American English and British English. Example: the words vacuum tube are engraved on the panel. The British word for a tube is valve. On the other hand, earth is printed on the panel rather than the American word ground. As you can see, it is a real puzzler. The wooden case is made out of cherrywood.



I am not sure if this radio was made in America for Japan, in England for Japan or in Japan. Some of the wiring has been altered but it seems to be all there. I am hoping that some young oldtimer can shed some further light on this set. Would appreciate any information anybody might know about this set.

Happy Hunting! Jim Cirner, 13366 Pastel Ln., Mt. View, CA. 94040



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Illustration of a tube with a knob

Illustration of a tube with a knob

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San Francisco California

HINTS

A METHOD OF CUTTING GLASS TUBING ETC.

There are times when one needs a thin glass tube or dome for a replacement part to a crystal detector, cokerer, or whatever.

Fragile glass may be had from used radio tubes, such as 700 series tubes, test tubes, light globes, etc. Now to the method:

Tools needed are:

<u>Lathe</u>	Metal or wood. Speed not critical as long as you can get it down below 300 RPM.
<u>Chuck</u>	Any good (3) jaw universal to fit lathe.
<u>DREMEL Tool</u>	A variable speed would be an advantage.
<u>Virillum Cut-Offs</u>	1-1/2" thin.

Lee Dental Supply, 1514 31st Avenue, San Francisco, California.

First, chuck up glass in 3 jaw, using base of old radio tube or paper wrapped tubing, (it matters little if glass wobbles). Turn on lathe so material spins. Then, hand hold Dremel tool, apply light pressure so as to mark glass, then, with a little more pressure, at about 30,000 RPM, glass will part. Be sure you provide a soft bed for glass to land.

Very thin glass can be cut this way. Also, very narrow pieces may be cut.

Thicker glass may be cut simply by marking with tool, then gently tapping with wooden handle or whatever.

Heres hoping you have as much success as I.

WOODY WILSON
408 Oak Manor Drive
Fairfax, California 94930
415-454-8534

SWAP MEET

The pictures on the following page were taken at our last swap meet.



Photos by Bill Wakefield

COLLECTORS NOTES

The purpose of this column is to spotlight any new articles you may have added to your collection recently. Please send notices to the editor. If possible include where you found the item. For example, flea market, friend, auction, etc.

JIM CIRNER recently aquired the authentic Hogan's Heros crystal set.

ALLAN BRYANT found a tubular audiotron and an electron relay at the flea market.

NORM BERGE added one of the very first floor type microphones used at Pittsburgh's KDKA to his collection.

THE COLLECTOR'S ADS

FOR SALE: Many issues of Electronics, 1930-1935, \$1.00 ea, or 65¢ ea for the lot (about 40 magazines).

Proceedings of IRE, complete years of 1930, 32, 34 and 37, \$6.50/yr.-good ads in every issue. Radio Craft, Mar.'34, May '36, Oct.'38 and Radio News, Mar.'34, \$1.00 ea -allow for shipment. Thompson Levering Lab resistance bridge with galvanometer (1924), \$85.00. 1928 QST's in binder, steel phonograph needles, cathedral radio, Radiola X knob, Radiola VIII dial pointers, other parts-send SASE for list. Wanted: Trirdyne and parts for AK breadboard. F.A. PAUL, W6THU, 1545 Raymond, Glendale, Calif. 91201.

WANTED: Crosley book-type variable condenser. Also need two Crosley rheostats. JOE HORVATH, 522 3rd St. San Rafael, Calif. 94901. 454-2221

WANTED: Need the following QST's, Feb.'22, Dec.'21, JAN.-Feb.-Mar.-Aug.-Oct.-Nov,'20. Will buy or trade other QST's. Looking for crystal detector for the large Martian crystal set. Will buy or borrow for reproduction. DAVE BRODIE, 315 Cotton St., Menlo Park, Calif. 94025

WANTED: Chassis for Jackson Bell, model 84 (Peter Pan) set. Working or not. RUSS GOODLIVE, 1401 Franchere Pl., Sunnyvale, Calif. 94087.

FREE: "Roaring 20's" newsletter. Buy-Sell-Trade vintage sets. Send SASE to: FLOYD PAUL, 1545 Raymond, Glendale, Calif. 91201.

FOR SALE: 1949 7" Motorola TV in a wood case, \$45. 1950 8" Motorola suitcase portable TV, \$45. Radiola IIIA, \$45. Wanted: Early TV equipment and literature, also cabinet for Grebe Synchrophase. KEN MILLER 36722 Matiz Common, Fremont, CA. 94536

WANTED: Transformer for Crosley 51. Philco shadowmeter. ID plate for AK type "M" horn. ALLAN BRYANT 38262 Ballard Dr., Fremont, CA. 94536

WANTED: Old beat-up Radio news magazines, ads, or other radio related literature for donation to C.H.R.S. for use in the journal. Please send to the editor.

WANT ADS ARE FREE TO ALL MEMBERS OF THE CALIFORNIA HISTORICAL RADIO SOCIETY. SUBMIT ADS TO THE EDITOR, ALLAN BRYANT, 38262 BALLARD DR., FREMONT, CA., 94536. DUE TO THE NON-PROFIT STATUS OF OUR SOCIETY, WE CANNOT ACCEPT ADS OF A COMMERCIAL NATURE.
